

Appl. No. 09/452,691  
Reply to Office action of 09/22/2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): An integrated circuit comprising:

- a lower metal interconnect layer located over a semiconductor body;
- a multi-level dielectric layer located over said lower interconnect layer;
- an upper metal interconnect layer located over said multi-level dielectric layer;

and

a thin film resistor embedded within said multi-level dielectric layer between said lower metal interconnect layer and said upper metal interconnect layer, wherein said thin film resistor comprises a resistor layer that is physically separated, in its entirety, in a vertical direction from any metal interconnect layer;

a first via extending from said upper metal interconnect layer to said lower interconnect layer; and

a second via extending from said upper metal layer to said thin film resistor.

Claim 2 (cancelled)

Claim 3 (original): The integrated circuit of claim 1, wherein said thin film resistor comprises a hard mask located over an end of the thin film resistor.

Claims 4-5 (cancelled).

Claim 6 (original): The integrated circuit of claim 1, wherein said thin film resistor comprises TaN.

Claim 7 (original): The integrated circuit of claim 1, wherein said thin film resistor comprises SiCr.

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**Claim 8 (original):** The integrated circuit of claim 1, wherein said thin film resistor comprises NiCr.

**Claims 9-20 (cancelled)**

**Claim 21 (previously presented):** An integrated circuit comprising:

- a lower metal interconnect layer located over a semiconductor body;
- a multi-level dielectric layer located over said lower interconnect layer;
- an upper metal interconnect layer located over said multi-level dielectric layer;

and

- a thin film resistor embedded within said multi-level dielectric layer between said lower metal interconnect layer and said upper metal interconnect layer, wherein said thin film resistor comprises a resistor layer that is physically separated, in its entirety, in a vertical direction from any metal interconnect layer, wherein said thin film resistor comprises a hard mask located over an end of the thin film resistor, and wherein said hard mask comprises TiW.

**Claim 22 (previously presented):** An integrated circuit comprising:

- a lower metal interconnect layer located over a semiconductor body;
- a multi-level dielectric layer located over said lower interconnect layer;
- an upper metal interconnect layer located over said multi-level dielectric layer;

and

- a thin film resistor embedded within said multi-level dielectric layer between said lower metal interconnect layer and said upper metal interconnect layer, wherein said thin film resistor comprises a resistor layer that is physically separated, in its entirety, in a vertical direction from any metal interconnect layer, wherein said thin film resistor comprises a hard mask located over an end of the thin film resistor, and wherein said hard mask comprises TiN.